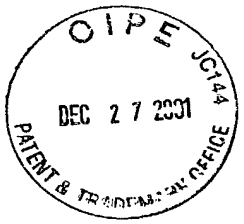

SEQUENCE LISTING

<110> Mitchell, Lloyd G.
Garcia-Blanco, Mariano A.
Puttaraju, Madaiah
Mansfield, Gary S.

<120> METHODS AND COMPOSITIONS FOR USE IN SPLICEOSOME MEDIATED RNA TRANS-SPLICING

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<141> 2001-01-08

<150> 09/158,863
<151> 1998-09-23

<150> 09/133,717
<151> 1998-08-13

<150> 09/087,233
<151> 1998-05-28

<150> 08/766,354
<151> 1996-12-13

<150> 60/008,317
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132

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<400> 11
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17

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<400> 17
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16

<210> 18
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<400> 18
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<400> 19
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<210> 20
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36

<210> 21
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<213> Corynebacterium diptheriae

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<400> 25
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Escherichia coli lacZ gene

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<220>
<223> Oligonucleotide primer complimentary to the
Escherichia coli lacZ gene

<400> 29
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36

<210> 30
<211> 38
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer complimentary to the
Escherichia coli lacZ gene

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38

<210> 31
<211> 38
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer complimentary to the
Escherichia coli lacZ gene

<400> 31
ctgaaagctt gttaacttat tatttttgac accagacc
38

<210> 32
<211> 47
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer complimentary to the
Escherichia coli lacZ gene

<400> 32
gcatggtaac cctgcagggc ggcttcgtct aataatggga ctgggtg
47

<210> 33
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer complimentary to the beta
HCG6 gene (accession #X00266)

<400> 33
gcatggatcc tccggagggc ccctgggcac cttccac
37

<210> 34

<211> 38
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer complimentary to the beta HCG6 gene (accession #X00266)

<400> 34
ctgactgcag ggtaaccgga caaggacact gcttcacc
38

<210> 35
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer complimentary to the beta HCG6 gene (accession #X00266)

<400> 35
gcatggtaac cctgcagggg ctgctgctgt tgctg
35

<210> 36
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer complimentary to the beta HCG6 gene (accession #X00266)

<400> 36
ctgaaagctt gttaaccagc tcaccatggt ggggcag
37

<210> 37
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer complimentary to the Escherichia coli lacZ gene

<400> 37

ggctttcgct acctggagag ac
22

<210> 38
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer complimentary to the
Escherichia coli lacZ gene

<400> 38
gctggatgcg gcgtgcggtc g
21

<210> 39
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer complimentary to the
Escherichia coli lacZ gene

<400> 39
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<210> 40
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<212> DNA
<213> Homo sapien

<400> 40
acctgggccc acccattatt aggtcattat ccgcggaaca ttata
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<210> 41
<211> 35
<212> DNA
<213> Homo sapiens

<400> 41
acctctgcag gtgaccctgc aggaaaaaaa agaag
35

<210> 42

<211> 30
<212> DNA
<213> Homo sapiens

<400> 42
acctctgcag acttcacttc taatgatgat
30

<210> 43
<211> 51
<212> DNA
<213> Homo sapien

<400> 43
acctgcggcc gcctaatgat gatgatgatg atgctcttct agttggcatg c
51

<210> 44
<211> 32
<212> DNA
<213> Homo sapien

<400> 44
gacctctcga gggatttggg gaattatttg ag
32

<210> 45
<211> 35
<212> DNA
<213> Homo sapien

<400> 45
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35

<210> 46
<211> 35
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<400> 46
ctgacctgcg gccgcccaac tatctgaatc atgtg
35

<210> 47
<211> 32
<212> DNA
<213> Homo sapien

<400> 47
gacctcttaa gtagactaac cgattgaata tg
32

<210> 48
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<400> 48
ctaatgatga tgatgatgat g
21

<210> 49
<211> 21
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<400> 49
cgcctaatga tgatgatgat g
21

<210> 50
<211> 21
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<213> Homo sapien

<400> 50
cttcttggta ctcctgtcct g
21

<210> 51
<211> 32
<212> DNA
<213> Homo sapien

<400> 51
gacctctcga gggatttggg gaattatttg ag
32

<210> 52
<211> 21
<212> DNA
<213> Homo sapien

<400> 52
aactagaagg cacagtcgag g

21

<210> 53
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> trans-spliced product containing Human chorionic gonadotropin gene 6 sequences and Corynebacterium diptheriae diptheria toxin A sequence

<400> 53
gagatgttcc agggcgtgat gatg
24

<210> 54
<211> 127
<212> RNA
<213> Artificial Sequence

<220>
<223> PTM intramolecular base paired stem

<221> misc_feature
<222> (57)...(70)
<223> Loop comprising a combination of 14 nucleotides according to specification

<400> 54
gcuagccugg gacaaggaca cugcuucacc cgguuaguag accacagccc ugagccnnnn
60
nnnnnnnnnn aucguuaacu aauaaacuac uaacugggug aacuucuguu uuuuucucga
120
gcugcag
127

<210> 55
<211> 127
<212> RNA
<213> Artificial Sequence

<220>
<223> PTM intramolecular base paired stem

<221> misc_feature
<222> (57)...(70)
<223> Loop comprising a combination of 14 nucleotides

according to specification

<400> 55
gcuagccugg gacaaggaca cugcuucacc cgguuaguag accacagccc ugagccnnnn
60
nnnnnnnnnn aucguuaacu aauaaacuac uaacugggug aacuucugua uuauucucga
120
gcugcag
127

<210> 56
<211> 127
<212> RNA
<213> Artificial Sequence

<220>
<223> PTM intramolecular base paired stem

<221> misc_feature
<222> (57)...(70)
<223> Loop comprising a combination of 14 nucleotides
according to specification

<400> 56
gcuagccugg gacaaggaca cugcuucacc cgguuaguag accacagccc ugagccnnnn
60
nnnnnnnnnn aucguuaacu aauaaacuac uaacugggug aaguucuguc cuugucucga
120
gcugcag
127

<210> 57
<211> 132
<212> DNA
<213> Artificial Sequence

<220>
<223> trans-spliced product containing Human chorionic
gonadotropin gene 6 sequences and Corynebacterium
diptheriae diptheria toxin A sequences

<400> 57
caggggacgc accaaggatg gagatgttcc agggcgctga tgatgttgtt gattcttctt
60
aaatcttttg tgatggaaaa cttttcttcg taccacggga ctaaacctgg ttatgtagat
120
tccattcaaa aa
132

<210> 58
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial Sequence derived from Escherichia coli
lacZ gene

<400> 58
gaattcggta ccatgggg
18

<210> 59
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial Sequence derived from Escherichia coli
lacZ gene

<400> 59
cgtttacagg taagaggatc ctccggaggg ccc
33

<210> 60
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial Sequence derived from Escherichia coli
lacZ gene

<400> 60
tggtgtcaaa aataataagt taacaagctt
30

<210> 61
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> trans-spliced product containing Escherichia coli
lacZ gene sequences and Human chorionic

gonadotropin gene 6 exon 2 sequences

<400> 61
cagcagcccc tgtaaacggg gatac
25

<210> 62
<211> 286
<212> DNA
<213> Artificial Sequence

<220>
<223> trans-spliced product containing Escherichia coli
lacZ gene sequences

<400> 62
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60
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120
agggcggctt cgtctaataa tgggactggg tggatcagtc gctgattaaa tatgatgaaa
180
acgggcaacc cgtggtcggc ttacggcggt gattttggcg atacgccgaa cgatcgccag
240
ttctgtatga acggtctggt ctttgccgac cgcacgccgc atccag
286

<210> 63
<211> 196
<212> DNA
<213> Artificial Sequence

<220>
<223> trans-spliced product containing Escherichia coli
lacZ gene sequences

<400> 63
ggctttcgct acctggagag acgcgcccgc tgatcctttg cgaatacgcc cacgcgatgg
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120
aggggctgct gctgttgctg ctgctgagca tgggcgggac atgggcatcc aaggagccac
180
ttcggccacg gtgccg
196

<210> 64
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<212> DNA
<213> Artificial Sequence

<220>
<223> trans-spliced product comprising cystic fibrosis transmembrane regulator-derived sequences and His tag sequence

<400> 64
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aacgttgctc gagtactaac tggaacctct tctttttttt cctgcagact tcacttctaa
120
tgatgattat gggagaactg gagccttcag agggtaaaat taagcacagt ggaagaattt
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240
gcggccgcca ctgtgctgga tatctgcaga attccaccac actggactag tggatccgag
300
ctcggtacca aggttaagtt taaaccgctg atcagcctcg actgtgcctt ctagttgcca
360
gccatctgtt gtttgccccc cccccgtgcc ttccttgacc ctggaaggtg ccactcccac
420

<210> 65
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Splice junction sequence

<400> 65
atgttccagg gcgtgatgat
20

<210> 66
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> C terminal residues from glutathione -S-transferase

<400> 66
Asp Tyr Lys Asp Asp Asp Lys

1 5

<210> 67
<211> 15
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence comprising sequences derived
from Escherichia coli lacZ gene

<400> 67
ggagttgatc ccgtc
15

<210> 68
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence comprising sequences derived
from Escherichia coli lacZ gene

<400> 68
gcagtgtcct tgtgcggtta ccctgcaggg cggcttc
37

<210> 69
<211> 120
<212> DNA
<213> Artificial Sequence

<220>
<223> Binding domain of PTM

<400> 69
gattcacttg ctccaattat catcctaagc agaagtgtat attcttattt gtaaagattc
60
tattaactca tttgattcaa aatatttaaa atacttcctg tttcatactc tgctatgcac
120

<210> 70
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Spacer sequence of PTM

<400> 70
aacattatta taacgttgct cgaa
24

<210> 71
<211> 47
<212> DNA
<213> Artificial Sequence

<220>
<223> Branch point, pyrimidine tract and acceptor splice
site of PTM

<400> 71
tactaactgg tacctcttct ttttttttg atatcctgca gggcggc
47

<210> 72
<211> 70
<212> DNA
<213> Artificial Sequence

<220>
<223> Donor site and spacer sequence of PTM

<400> 72
tgaacggtaa gtgttatcac cgatatgtgt ctaacctgat tcgggccttc gatacgctaa
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gatccaccgg
70

<210> 73
<211> 260
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<213> Artificial Sequence

<220>
<223> Binding domain of spacer sequence

<400> 73
tcaaaaagtt ttcacataat ttcttacctc ttcttgaatt catgctttga tgacgcttct
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120

ctggaaaact gataacacaa tgaaattctt ccactgtgct taaaaaaacc ctcttgaatt
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aactcattat caaatcacgc
260

<210> 74
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<220>
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<400> 74
cgctggaaaa acgagcttgt tg
22

<210> 75
<211> 23
<212> DNA
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<220>
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<400> 75
actcagtgtg attccacctt ctc
23

<210> 76
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

<400> 76
gacctctgca gacttcactt ctaatgatga ttatgg
36

<210> 77
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
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<400> 77
ctaggatccc gttcttttgt tcttcactat taa
33

<210> 78
<211> 33
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<220>
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<400> 78
ctagggttac cgaagtaaaa ccatacttat tag
33

<210> 79
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
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<400> 79
gcatggttac cctgcagggg ctgctgctgt tgctg
35

<210> 80
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
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37

<210> 81
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Binding domain of PTM molecule

<400> 81
acccatcatt attaggtcat tat
23

<210> 82
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 82
gatcaaatct gtcgatcctt cc
22

<210> 83
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 83
ctgatccacc cagtcccatt a
21

<210> 84
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 84
gactgatcca cccagtccca ga
22

<210> 85
<211> 52
<212> DNA
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<220>
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<221> misc_feature
<222> (7)...(30)
<223> spacer sequence, see SEQ ID NO 70

<400> 85
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52

<210> 86
<211> 71
<212> DNA
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<220>
<223> Oligonucleotide

<400> 86
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60
tatgatgaaa a
71

<210> 87
<211> 66
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<213> Artificial Sequence

<220>
<223> Oligonucleotide

<400> 87
tttggcgata cgccgaacga tcgccagttc tgtatgaacg gtctggtctt tgccgaccgc
60
acgccg
66

<210> 88
<211> 192
<212> DNA
<213> Artificial Sequence

<220>
<223> PTM sequences

<400> 88

acgagcttgc tcatgatgat catgggcgag ttagaaccaa gtgaaggcaa gatcaaacat
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tccggccgca tcagcttttg cagccaattc agttggatca tgcccggtac catcaaggag
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cagttggagg ag
192

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<400> 89
gagcaggcaa gacgagcttg ctcat
25

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<400> 90
gagaacataa tcttcggcgt cagttacg
28

<210> 91
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<400> 91
gtcagttgga ggaggacatc tccaagtttg
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<211> 192
<212> DNA

<213> Artificial Sequence

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acgagcttgc tcatgatgat catgggcgag ttagaaccaa gtgaaggcaa gatcaaacat
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tccggccgca tcagcttttg cagccaattc agttggatca tgcccggtac catcaaggag
120
aacataatct tcggcgtcag ttacgacgag taccgctatc gctcggtgat taaggcctgt
180
cagttggagg ag
192

<210> 93
<211> 27
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<213> Artificial Sequence

<220>
<223> PTM sequences

<400> 93
aaatatcatt ggtgtttctt atgatga
27

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<400> 94
ccaactagaa gaggacatct ccaagtttgc
30

<210> 95
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<400> 95
atgatcatgg gcgagttaga accaagtgag
30

<210> 96
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<220>
<223> Oligonucleotide

<400> 96
aaaatatcat ctttggtgtt tcctatg
27

<210> 97
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

<400> 97
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27

<210> 98
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> 5' splice site

<400> 98
cgtttacagg taagtggatc c
21

<210> 99
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> 3' splice site

<400> 99
ctgcagggcg gcttcgtcta ataatgg
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<210> 100
<211> 47
<212> DNA
<213> Artificial Sequence

<220>
<223> Sequence from trans-splicing domain

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47

<210> 101
<211> 1584
<212> DNA
<213> Artificial Sequence

<220>
<223> CFTR PTM

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120
ccttctgttg attctgctga caatctatct gaaaaattgg aaagagaatg ggatagagag
180
ctggcttcaa agaaaaatcc taaactcatt aatgcccttc ggcgatgttt tttctggaga
240
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300
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360
atttatctag gcataggctt atgccttctc tttattgtga ggacactgct cctacaccca
420
gccatttttg gccttcatca cattggaatg cagatgagaa tagctatgtt tagtttgatt
480
tataagaaga ctttaaagct gtcaagccgt gttctagata aaataagtat tggacaactt
540
gttagtctcc tttccaacaa cctgaacaaa tttgatgaag gacttgcatt ggcacatttc
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1260
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1380
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1440
aagatcaaac attccggccg catcagcttt tgcagccaat tcagttggat catgcccggt
1500
accatcaagg agaacataat cttcggcgtc agttacgacg agtaccgcta tcgctcggtg
1560
attaaggcct gtcagttgga ggag
1584

<210> 102
<211> 323
<212> DNA
<213> Artificial Sequence

<220>
<223> trans-splicing domain of CFTR PTM

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120
ctgtatctat attcatcatt ggaaacacca atgatatttt ctttaatggt gcctggcata
180
atcctggaaa actgataaca caatgaaatt cttccactgt gcttaatttt accctctgaa
240
ttctccattt ctcccataat catcattaca actgaactct ggaaataaaa cccatcatta
300
ttaactcatt atcaaatcac gct

<210> 103
<211> 165
<212> DNA
<213> Artificial Sequence

<220>
<223> PTM binding domain

<400> 103
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cctaagcaga agtgtatatt cttatttgta aagattctat taactcattt gattcaaaat
120
atttaaaata cttcctgttt cacctactct gctatgcacc cgcgg
165

<210> 104
<211> 225
<212> DNA
<213> Artificial Sequence

<220>
<223> trans-splicing domain of CFTR PTM

<400> 104
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120
aaatacttcc tgtttcacct actctgctat gcacccgcgg aacattatta taacgttgct
180
cgaatactaa ctggtacctc ttcttttttt tttgatatcc tgcag
225

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<212> DNA
<213> Artificial Sequence

<220>
<223> CFTR PTM sequence

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120
aatatcatct ttggtgtttc ctatgatgaa tatagataca gaagcgtcat caaagcatgc
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caactagaag aggacatctc caagtttgca gagaaagaca atatagttct tggagaaggt
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360
gaaatatttg aaagctgtgt ctgtaaactg atggctaaca aaactaggat tttggtcact
420
tctaaaatgg aacatttaaa gaaagctgac aaaatattaa ttttgcatga aggtagcagc
480
tatttttatg ggacattttc agaactccaa aatctacagc cagactttag ctcaaaactc
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600
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660
caatctttta aacagactgg agagtttggg gaaaaaagga agaattctat tctcaatcca
720
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